299830

FAA-04-18744-6

U.S. Department
of Transportation

**Federal Aviation
Administration**

Central Region
Iowa, Kansas,
Missouri, Nebraska

901 Locust Street
Kansas City, Missouri 64106

September 14, 2004

Mr. Raymond A. Mosley
Director, Office of the Federal Register
National Archives and Records Administration
Washington, DC 20408

Dear Mr. Mosley:

This is to certify that the enclosed uncoded diskette furnished with the following Notice of proposed rulemaking (NPRM) AD action contains a true copy of the original signed document:

Subject: Docket No. FAA-2004-18744
Directorate Identifier: 2004-CE-24-AD
Name of file on disk: 04-CE-24.NP

The diskette should be used by the Government Printing Office (GPO) in preparing the final Federal Register document for publication.

If you have any questions, please feel free to contact me at (816) 329-4148.

Sincerely,

M. Scott Wessley,
Certifying Officer

[4910-13-U]

DEPARTMENT OF TRANSPORTATION (DOT)

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18744; Directorate Identifier 2004-CE-24-AD]

RIN 2120-AA64

Airworthiness Directives; Great Lakes Aircraft Company, LLC, Models 2T-1A-1 and 2T-1A-2 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 79-20-08, which applies to all Great Lakes Aircraft Company, LLC, (Great Lakes) Models 2T-1A-1 and 2T-1A-2 airplanes with a Lycoming IO-360-B1F6 or AIO-360-B1G6 engine installed. AD 79-20-08 currently requires you to inspect the engine induction system and the alternate air door for any signs of damage and repairing or replacing any damaged components. AD 79-20-08 also requires you to inspect the induction system for the presence of a drain fitting. If the drain fitting is blocked, restricted, or does not exist, AD 79-20-08 requires you to clear the fitting or drill a hole in the elbow at the fitting location. This proposed AD is the result of the FAA inadvertently omitting Lycoming engine AEIO-360-B1G6 from the applicability section of AD 79-20-08. Consequently, this proposed AD would retain the actions required in AD 79-20-08 and add Lycoming engine AEIO-360-B1G6 to the applicability section. We are issuing this proposed AD to prevent the aircraft induction system from becoming blocked or restricted, which could result in engine failure. This failure could lead to loss of control of the airplane.

DATES: We must receive any comments on this proposed AD by November 16, 2004.

ADDRESSES: Use one of the following to submit comments on this proposed AD:

- DOT Docket web site: Go to http://dms.dot.gov and follow the instructions for sending your comments electronically.
- Government-wide rulemaking web site: Go to http://www.regulations.gov and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; US Department of Transportation, 400 Seventh Street, S.W., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Fax: 1-202-493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, S.W., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may view the comments to this proposed AD in the AD docket on the Internet at http://dms.dot.gov.

FOR FURTHER INFORMATION CONTACT: Roger Caldwell, Aerospace Engineer, Denver Aircraft Certification Office (ACO), Federal Aviation Administration (FAA), 26805 E. 68th Ave., Rm 214 Denver, CO 80249-6361; telephone: (303) 342-1086; facsimile: (303) 342-1088.

SUPPLEMENTARY INFORMATION:

Comments Invited

How do I comment on this proposed AD? We invite you to submit any written relevant data, views, or arguments regarding this proposal. Send your comments to an address listed under ADDRESSES. Include the docket number, "FAA-2004-18744; Directorate Identifier 2004-CE-24-AD" at the beginning of your comments. We will post all comments we receive, without change, to http://dms.dot.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal

contact with FAA personnel concerning this proposed rulemaking. Using the search function of our docket web site, anyone can find and read the comments received into any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). This is docket number FAA-2004-18744. You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit http://dms.dot.gov.

Are there any specific portions of this proposed AD I should pay attention to? We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. If you contact us through a nonwritten communication and that contact relates to a substantive part of this proposed AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend this proposed AD in light of those comments and contacts.

Docket Information

Where can I go to view the docket information? You may view the AD docket that contains the proposal, any comments received, and any final disposition in person at the DMS Docket Offices between 9:00 a.m. and 5:00 p.m. (eastern standard time), Monday through Friday, except Federal holidays. The Docket Office (telephone 1-800- 647-5227) is located on the plaza level of the Department of Transportation NASSIF Building at the street address stated in ADDRESSES. You may also view the AD docket on the Internet at http://dms.dot.gov. The comments will be available in the AD docket shortly after the DMS receives them.

Discussion

Has FAA taken any action to this point? The alternate air source door on the original aircraft configuration of Great Lakes Models 2T-1A-1 and 2T-1A-2 airplanes was operated by push-pull cable in the cockpit and had an induction system drain provision. Later modifications changed the configuration of the alternate air source door to automatic operation.

All fuel-injected engines are required to have an alternate air source. If the primary induction air source becomes blocked or restricted, the lower pressure differential in the induction system would overcome a spring tension on the alternate air door and provide a secondary airflow path for the engine.

Inspections of Lycoming engines IO-360-B1F6 and AIO-360-B1G6 revealed instances of heat distortion, damage, and cracks in the alternate air door. Extensive damage to the alternate air door could cause pieces to break off and get sucked into the induction system blocking the airflow to the engine.

Additional inspections revealed that some of the affected engines did not have an induction system drain to remove fluid and/or moisture away from the engine.

These conditions caused us to issue AD 79-20-08. AD 79-20-08 currently requires the following on all Great Lakes Models 2T-1A-1 and 2T-1A-2 airplanes that have a Lycoming engine IO-360-B1F6 or AIO-360-B1G6 installed:

- Visually inspecting the aircraft induction system drain fitting located in the induction elbow below the fuel injector for blockage or restriction;

- Clearing the blocked drain hole or drilling a hole in the elbow at the fitting location if the drain hole is restricted in the weld area or not drilled through the elbow;

- Visually inspecting the alternate air door for damage and repairing or replacing any damaged alternate air door; and

- Visually inspecting the aircraft induction system (including the filter) for cleanliness, security, and damage and repairing or replacing any dirty or damaged components.

What has happened since AD 79-20-08 to initiate this proposed action? During a recent inspection, it was discovered that the Lycoming engine AEIO-360-B1G6 has the same configuration as Lycoming engines IO-360-B1F6 and AIO-360-B1G6.

What is the potential impact if FAA took no action? If not detected and corrected, blockage or restriction of the aircraft induction system could cause engine failure. This failure could result in loss of control of the airplane.

FAA's Determination and Requirements of this Proposed AD

What has FAA decided? We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other products of this same type design. Therefore, we are proposing AD action.

What would this proposed AD require? This proposed AD would supersede AD 79-20-08 with a new AD that would retain the actions required in AD 79-20-08 and would add Lycoming engine AEIO-360-B1G6 to the applicability section.

How does the revision to 14 CFR part 39 affect this proposed AD? On July 10, 2002, we published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

How many airplanes would this proposed AD impact? We estimate that this proposed AD affects 130 airplanes in the U.S. registry.

What would be the cost impact of this proposed AD on owners/operators of the affected airplanes? We estimate the following costs to accomplish the proposed inspections of the aircraft induction system, the induction system drain fitting, and the alternate air door:

Labor Cost	Parts Cost	Total Cost Per Airplane	Total Cost on U.S. Operators
3 workhours X $65 = $195.	Not Applicable.	$195.	$195 X 130 = $25,350.

We estimate the following costs to accomplish any necessary repairs and/or replacements that would be required based on the results of this proposed inspections. We have no way of determining the number of airplanes that may need these repairs and/or replacements:

Labor Cost	Parts Cost	Total Cost Per Component
3 workhours per component X $65 = $195.	Approximately $113 per component.	$195 + $113 = $308.

What is the difference between the cost impact of this proposed AD and the cost impact of AD 79-20-08? The only difference between this proposed AD and AD 79-20-08 is the correction to the applicability. No additional actions are being proposed. The FAA has determined that this proposed AD action does not increase the cost impact over that already required by AD 79-20-08.

Regulatory Findings

Would this proposed AD impact various entities? We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

Would this proposed AD involve a significant rule or regulatory action? For the reasons discussed above, I certify that this proposed AD:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this proposed AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2004-CE-24-AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 as follows:

PART 39 – AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 79-20-08, Amendment 39-3580, and by adding a new AD to read as follows:

GREAT LAKES AIRCRAFT COMPANY, LLC: Docket No. FAA-2004-18744; Directorate Identifier 2004-CE-24-AD; Supersedes AD 79-20-08; Amendment 39-3580

When is the Last Date I can Submit Comments on this Proposed AD?

(a) We must receive comments on this proposed airworthiness directive (AD) by November 16, 2004.

What Other ADs Are Affected By This Action?

(b) This AD supersedes AD 79-20-08, Amendment 39-3580.

What Airplanes Are Affected by This AD?

(c) This AD affects all Model 2T-1A-1 and 2T-1A-2 airplanes that have a Lycoming IO-360-B1F6, AIO-360-BIG6, or AEIO-360-BIG6 engine installed and that are certificated in any category.

What is the Unsafe Condition Presented in This AD?

(d) This AD is the result of heat distortion, damage, and cracks found in the aircraft induction system on Lycoming IO-360-B1F6, AIO-360-B1G6, and AEIO-360-BIG6 engines. The actions specified in this AD are intended to prevent the aircraft induction system from becoming blocked or restricted, which could result in engine failure. This failure could lead to loss of control of the airplane.

What Must I do to Address This Problem?

(e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) Perform the following: (i) Visually inspect the aircraft induction system drain fitting located in the induction elbow below the fuel injector for blockage or restriction. (ii) If the hole is blocked or restricted in the weld area or not drilled through the elbow, open up the restricted hole or drill a hole in the elbow at the fitting location using a No. 10 (.193) drill.	For all affected airplanes: Inspect within the next 25 hours time-in-service (TIS) after the effective date of this AD. Before further flight, modify the blocked or restricted aircraft induction system drain fitting.	Not applicable.
(2) Visually inspect the alternate air door for distortion, heat damage, and cracks. If any damage is found, repair or fabricate a new door following Figure 1, Figure 2, and Figure 3 in this AD.	For airplanes previously affected by AD 79-20-08: Initially inspect at the next scheduled inspection required by AD 79-20-08 or within the next 25 hours TIS after the effective date of this AD, whichever occurs later. Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. For airplanes not previously affected by AD 79-20-08: Inspect within the next 25 hours TIS after the effective date of this AD. Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. For all affected airplanes: If damage is found during any inspection, before further flight, repair or replace the damaged alternate air door.	Not applicable.

(3) Visually inspect the aircraft induction system for cleanliness of the air filter, distortion, security, and damage from backfire or induction system fire. If the air filter is dirty, if any distortion, damage, or lack of security is found, repair, replace or modify all affected components.	For airplanes previously affected by AD 79-20-08: Initially inspect at the next scheduled inspection required by AD 79-20-08 or within the next 25 hours TIS after the effective date of this AD, whichever occurs later. Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. For airplanes not previously affected by AD 79-20-08: Inspect within the next 25 hours TIS after the effective date of this AD. Repetitively inspect thereafter at intervals not to exceed 100 hours TIS. For all affected airplanes: If damage is found during any inspection, before further flight, repair, replace, or modify any damaged components.	Not applicable.

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Denver Aircraft Certification Office, FAA. For information on any already approved alternative methods of compliance, contact Roger Caldwell, Aerospace Engineer, Denver ACO, FAA, 26805 E. 68th Ave., Rm 214 Denver, CO 80249-6361; telephone: (303) 342-1086; facsimile: (303) 342-1088.

May I Get Copies of the Documents Referenced in this AD?

(g) You may view the AD docket at the Docket Management Facility; US Department of Transportation, 400 Seventh Street, S.W., Nassif Building, Room PL-401, Washington, DC, or on the Internet at http://dms.dot.gov.

Figure 1

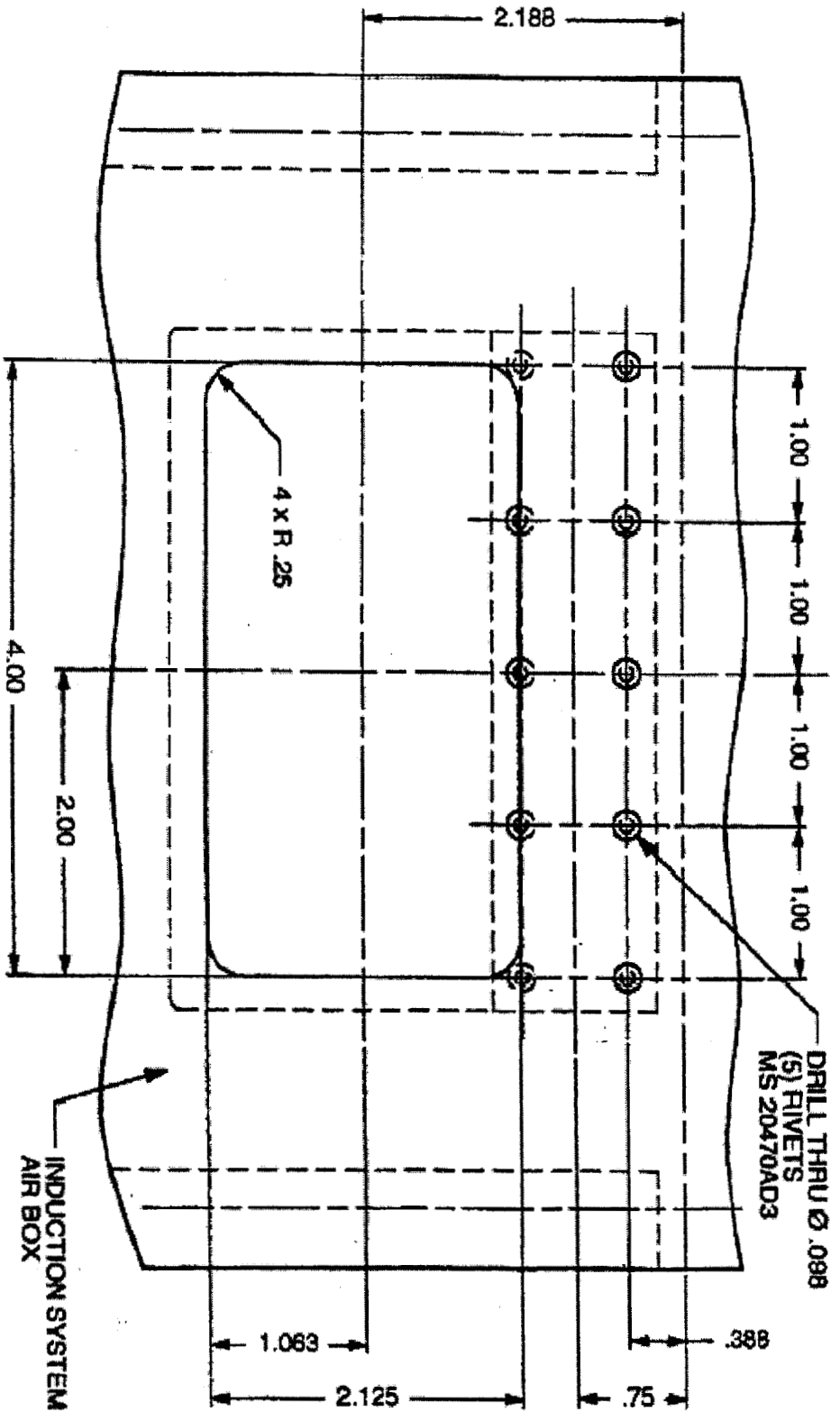

Fig. 1

GREAT LAKES AIRCRAFT, TYPES 2T-1A-1 AND 2T-1A-2
ENGINE INDUCTION SYSTEM AD 79-20-08
ALTERNATE AIR DOOR INSTALLATION
FULL SCALE

Figure 2

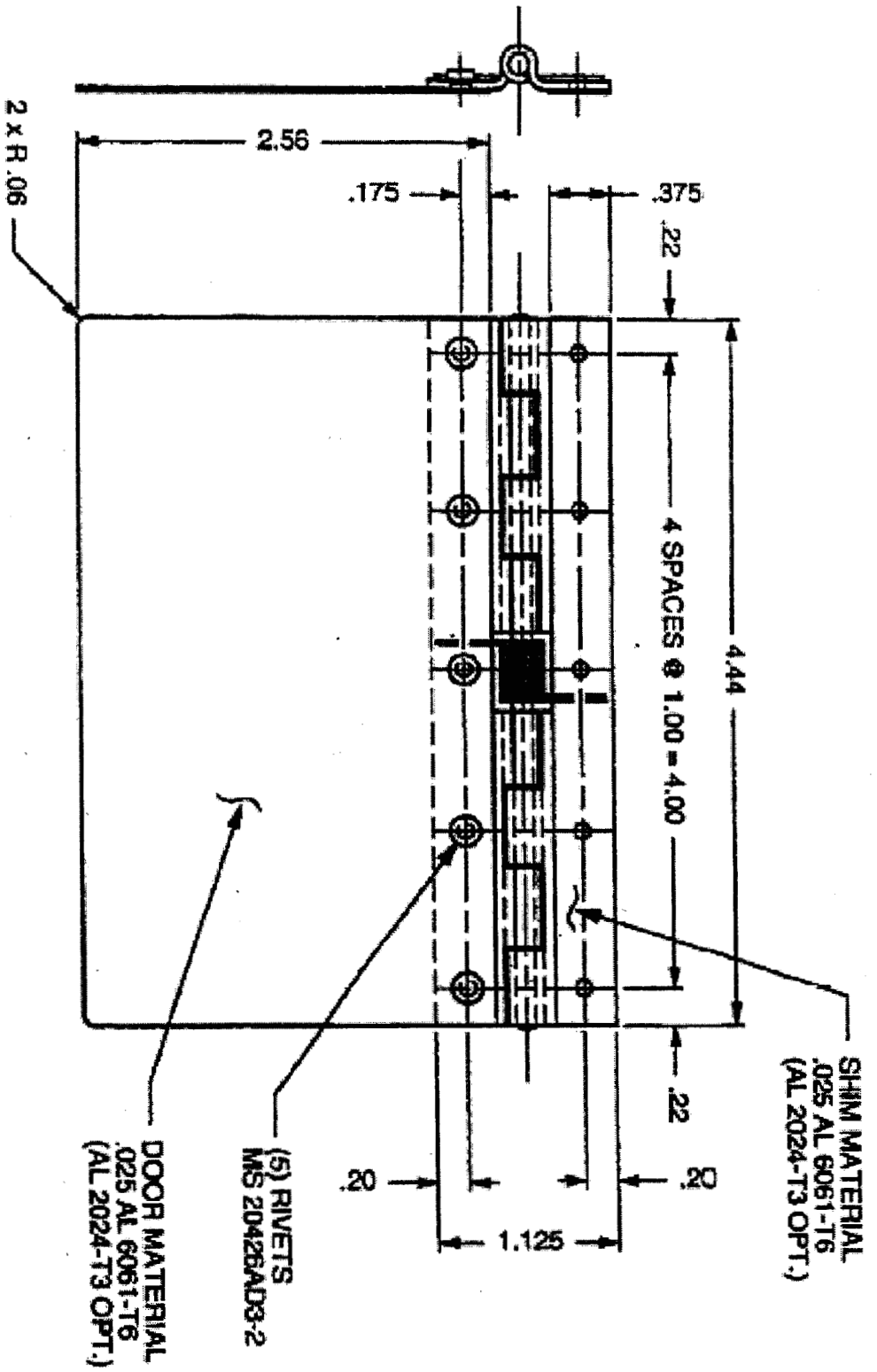

Fig. 2

GREAT LAKES AIRCRAFT, TYPES 2T-1A-1 AND 2T-1A-2
ENGINE INDUCTION SYSTEM AD 79-20-08
ALTERNATE AIR DOOR FABRICATION DETAIL
FULL SCALE

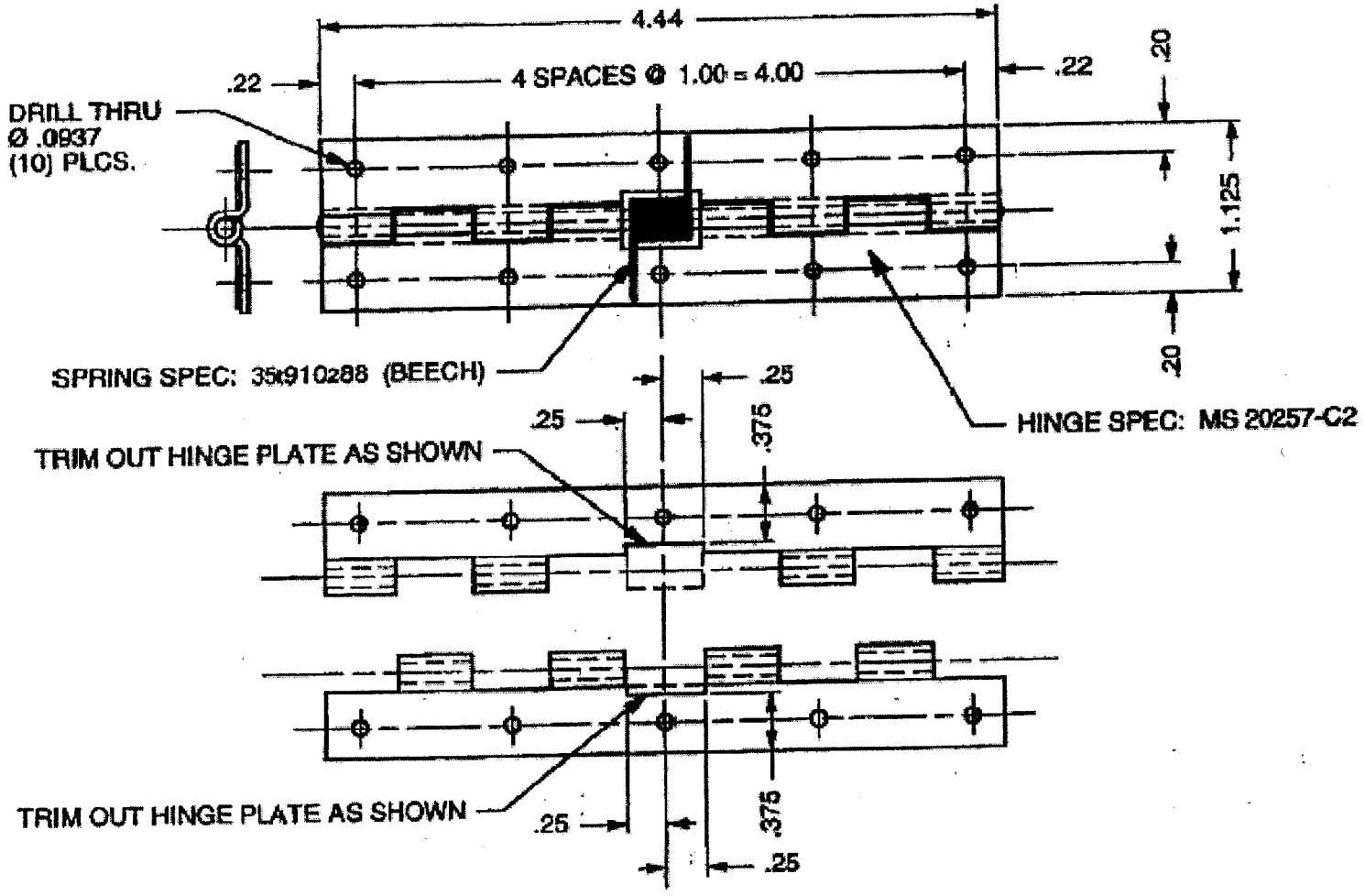

Figure 3

Fig. 3

GREAT LAKES AIRCRAFT, TYPES 2T-1A-1 AND 2T-1A-2
ENGINE INDUCTION SYSTEM AD 79-20-08
ALTERNATE AIR DOOR HINGE DETAIL
FULL SCALE

Issued in Kansas City, Missouri, on September 10, 2004.

Dorenda D. Baker,
Manager, Small Airplane Directorate,
Aircraft Certification Service.

Certified to be a true copy of the original

M. Scott Wessley
CERTIFYING OFFICER